

### Remarks/Arguments

This is responsive to the Office Action mailed October 5, 2004 which rejected claims 1, 2, 4, 9, 11-14, 22-28, and 30; and objected to claims 3, 5-8, 10, 15-21, and 29. The Applicant has canceled claims 9, 11, 12, and 30 and filed new claims 31-34 solely to more particularly point out and distinctly claim that which is the patentable subject matter of the present invention. The amendments are proper, do not introduce new matter, do not require additional searching, are not narrowing in view of a prior art rejection, and place the application in proper condition for allowance of all pending claims

### Rejection Under 35 USC 103

Claims 1, 9, 11, 12, 14, 23, 26 and 30 were rejected as being unpatentable over Sharma '517 in view of the IBM Material Bulletin ("Bulletin"). This rejection is respectfully traversed.

### Claim 1

The Examiner has failed to make the requisite prima facie case of obviousness because the cited references do not, alone or in combination, disclose or suggest all the features of the present invention as claimed in claim 1, which recites at least the following:

*providing an impurity chamber...containing thousands of dispersed gas-borne particles that each contain a marker impurity... evaluating... based on an indication of whether the marker impurity was present in the selected device(s) in an amount exceeding a predetermined threshold....*  
(excerpt from claim 1, emphasis added)

Proper claim construction begins with the plain meaning of the claim language. The plain meaning of a "marker" is reflected in its dictionary meaning: "something that marks or distinguishes." The American Heritage Dictionary of the English Language, New College

Edition © 1981. The plain meaning of an “impurity” is a “contaminant.” Id. Accordingly, the plain meaning of the claim term “marker impurity” is a contaminant that characteristically marks its presence on an object it encounters; or in other words, leaves a distinguishing mark as to where it is or has been on the object.

The embodiments of the present invention disclose the use of a marker impurity as a solution providing “an improved test that is far more decisive and informative...” in comparison to prior solutions. (specification, pg. 3, line 6) The marker quality of the contaminant used herein provides not just quantified information about leak rate, but further provides deterministic information about where a seal is likely failing.

The specification contemplates various marker impurities can be used. An impurity harder than the media surface, such as diamond dust, is useful because its particles can be sized to create an interference fit between the head and the rotating media, thereby resulting in visible damage. (specification, for example, pg. 6, lines 9-11) In alternative embodiments a dye particle can be used to create dispersion patterns inside the disc drive that are optically ascertainable. (specification, for example, pg. 6, lines 13-15) In other alternative embodiments a particle not otherwise expected inside the disc drive can be used and then detected with a spectrum analyzer. (specification, for example, pg. 6, lines 15-16)

Sharma ‘517 and the Bulletin are wholly silent regarding the use of a “marker impurity” in accordance with embodiments of the present invention as claimed. Sharma ‘517 discloses only the use of environmental dust particles as a contaminant: “The dust particles 26 may be compositionally identical to dust particles typically found in the working environment of a hard disk drive....” (Sharma ‘517 col. 2, lines 15-19) The Bulletin fails to cure the deficient teaching of Sharma ‘517. It enumerates a number of different

contaminants in Table 1 of paragraph 12, none of which have marker impurity characteristics. These suggested contaminants lack the ability to detect where leaks are likely originating, resulting directly in the problem to which the embodiments of the present invention are directed.

The Applicant agrees with the Examiner's statement: "Sharma does not expressly recite the "particles each contain a marker impurity that is substantially absent from all of the interior surfaces of the selected device." (Office Action, pg. 3) It appears, however, that the Examiner in the next statement mistakenly interprets the specification as disclosing the use of environmental dust particles as a marker impurity:

However, Applicant's specification on page 5 explains "any material not used in manufacturing components of the devices should be assumed to meet his condition." Sharma discloses test "contaminants 26 may be compositionally identical to dust particles typically found in the working environment of a hard disk drive," the environment being an external environment. Examiner considers that such dust particles implied by Sharma are not of material used in construction of the disk drive. (Office Action, ppg. 3-4)

The passage to which the Examiner here refers clearly does not define environmental dust as a candidate marker impurity. Particularly, the ending sentence states: "any material not used in manufacturing components of the device should be assumed to meet this condition." (specification, pg. 5, lines 21-22, emphasis added) The "condition" referred to is the term being defined in the paragraph, "substantially absent." The "condition" is not, as in the Examiner's misplaced reading, that of being a marker impurity.

Sharma '517 and the Bulletin are wholly silent regarding the use of a marker impurity. Accordingly, the Examiner has not made the requisite prima facie case of obviousness because the cited references do not, alone or in combination, disclose or suggest

all the features of the embodiments of the present invention as claimed in claim 1. The present rejection is thereby erroneous as a matter of law. Reconsideration and withdrawal of the present rejection of claim 1 and the claims depending therefrom are respectfully requested.

Claim 26

The Examiner has failed to make the requisite prima facie case of obviousness because the cited references do not, alone or in combination, disclose or suggest all the features of the present invention as claimed in claim 26, which recites at least the following:

*providing an impurity chamber containing thousands of dispersed gas-borne particles that each contain a marker impurity....*  
(excerpt from claim 26, emphasis added)

The Applicant wishes to clarify the following statement made by the Examiner: "IBM Material Bulletin also teaches monitoring the accumulation of dust at points of interest withing [sic] the product ( paragraph 8.7)." (Office Action, pg. 5) The passage to which the Examiner points clearly does not involve using a marker impurity. Rather, the Bulletin discloses placing a microscope slide at the point of interest and weighing it before and after testing to determine the amount of dust collected. The Bulletin also suggests greasing the slide to enhance dust collection. This passage, like the cited references as a whole, do not contemplate using a marker impurity.

As discussed above for claim 1, properly construing claim 26 reveals that Sharma '517 and the Bulletin are wholly silent regarding the use of a marker impurity. Accordingly, the Examiner has not made the requisite prima facie case of obviousness because the cited references do not, alone or in combination, disclose or suggest all the features of the embodiments of the present invention as claimed in claim 26. The present rejection is

thereby erroneous as a matter of law. Reconsideration and withdrawal of the present rejection of claim 26 and the claims depending therefrom are respectfully requested.

**Rejection Under Section 103(a)**

Claims 13 and 28 were rejected as being unpatentable over Sharma '517 as modified by the Bulletin and further in view of MIL-STD-810E Method 510.3. However, these claims are allowable as dependent claims of allowable independent claims, for reasons above, that provide additional limitations thereto. Reconsideration and withdrawal of the present rejection are respectfully requested.

**Rejection Under Section 103(a)**

Claim 24 was rejected as being unpatentable over Sharma '517 as modified by the Bulletin and further in view of Pederson '304. However, this claim is allowable as a dependent claim of an allowable independent claim, for reasons above, that provides additional limitations thereto. Reconsideration and withdrawal of the present rejection are respectfully requested.

**Allowable Subject Matter**

The Applicant gratefully acknowledges the indication of allowable subject matter in objected-to claims 3, 5-8, 10, 15-21, and 29. The Applicant has submitted separately herewith a response to the Examiner's statements of reasons for allowability. In addition thereto, the Applicant reiterates that none of the references of record disclose or suggest the use of a marker impurity in a method or apparatus for evaluating data storage devices. Otherwise, these objected-to claims are allowable as depending from an allowable

independent claim, for reasons above, and providing additional limitations thereto. The Applicant is entitled to the broader scope of the dependent claims and has elected thus not to place these dependent claims in independent form, except for those that have been rewritten as new claims.

### New Claims

New claim 31 is allowable as the subject matter of objected-to claim 21. New claims 32-34 are allowable as dependent from claim 31 and providing additional limitations thereto.

### Conclusion

This is a complete response to the Office Action mailed October 5, 2004. The Applicant requests reconsideration and passage to allowance all the pending claims. Also submitted herewith is a request for telephone interview after the Examiner has had the opportunity to consider this Amendment. The interview is necessary to confirm Applicant's assertion that the cited references fail to disclose or suggest using a marker impurity. The Examiner is invited to contact the Attorneys listed below should any questions arise concerning this response or request for interview.

Respectfully submitted,

By: 

Mitchell K. McCarthy, Registration No. 38,794  
Randall K. McCarthy, Registration No. 39,297  
Fellers, Snider, Blankenship, Bailey and Tippens, P.C.  
100 N. Broadway, Suite 1700  
Oklahoma City, Oklahoma 73102  
Telephone: (405) 232-0621  
Facsimile: (405) 232-9659  
Customer No. 33900